

REMARKS

As to the objections to the Specification and Drawings set forth in the Office Action of November 30, 2004, the Specification has been amended as set forth in the accompany substitute paragraphs under the heading of Specification Amendments. The amendment at page 6 of the specification corrects the improper designation for the tunnel to tunnel "36" at line 22 (no corresponding drawing amendment is required as the tunnel is correctly designated as "36" in the drawings). The amendment at page 13 corrects a spelling error.

The drawings have been amended in Fig. 9 included in the enclosed Replacement Sheet showing the correction relative to the number "54a".

By these changes, Applicant submits that the Specification and Drawing objections have been overcome.

As to the rejections of claims 2-25 under 35 USC 112, claims 2, 3, 6, 7 and 18-23 have been canceled while claims 4, 5, 8, 11 and 14-17 have been amended to clarify the claimed subject matter as to method or apparatus. The other of claims 2-17 depend from such amended claims and likewise are now definite as to the claimed subject matter. Rejected claims 24 and 25 are directed to a ground piercing tool. Applicant

submits that each of the remaining ones of claims 2-25 is definite and not subject to rejection under 35 USC 112.

As to the rejection of claims 1-25 based upon Elliott, all claims covered by the Elliott method and structure have been canceled or amended to render them free of rejection as being anticipated or obvious in view of the teaching of Elliott.

Specifically, the only remaining method claim, claim 1, is directed to a method of installing a pipe wherein the pipe is pre-mounted on a tool and deposited by a removal of a tip end of the tool and a pulling of the tool from an in-ground tunnel leaving the pipe in place. Elliott does not teach or suggest such a method. Claim 4 defines a system for installing a pipe under a surface structure comprising a pipe carried by a rod portion of a ground piercing tool and captured between an end surface of the tip and an outwardly enlarged portion of the rod. Elliott does not teach or suggest such a structure. Claim 5 defines a system for installing pipe under a surface structure including a tool having a pointed tip portion including an externally threaded rearward extension mating with an internally threaded cavity in a forward end of a rod and a pipe connector for connection to the tool after removal of the tip portion and

having an internally threaded cavity in a forward end portion of a rod. Elliott does not teach or suggest such a structure. The other of claims 1-25 either depend directly or indirectly from claim 5 or comprise claims 24 and 25 directed to a ground piercing tool including a plurality of rods and mating radially extending shoulders that, as described in Applicant's specification, transfer driving forces to the tip portion without creating shearing forces on mating threads of the tool. Elliott does not teach or suggest such methods of apparatus.

As to the rejection of claims 4, 14-17 and 24 based upon The EPO document, Applicant submits that such claims as amended are neither anticipated nor rendered obvious by the EPO document. The EPO document describes a drainage pipe and a method of its installation. The structure and method associated with the described drainage pipe are very different from the method of pipe installation (claim 1) and structure set forth in Applicant's claims 4, 14-17 and 24.

As to Applicant's claim 4, a pipe is carried on a rod of a ground piercing tool and is captured between an end surface of a removable tip portion of the tool and an outwardly enlarged portion of the rod. In the EPO document, the drain pipe is not

carried by a rod and is not captured between an end surface of a tip portion of a tool and an outwardly enlarged portion of a rod carrying the pipe.

As to claims 14-17 and 24, such claims are directed to a tool having a pointed tip portion threaded to an forward end of a rod that includes a forward facing end portion engaging a rearward facing portion of the tip portion to transmit axial driving forces from the rod to the tip. In the EPO document, the driving forces are transmitted directly from an end cap 7 to a push rod 6 bearing directly on an end of the threaded connection of tip 3 to the drainpipe body 5. Applicant's surface to surface drive force transfer as defined by claim 14 is not anticipated or rendered obvious by the teachings of the EPO document. Further, the outward location of the force transfer surfaces as defined in claims 15, 16 and 24 clearly are not taught by the EPO documents.

As to claim 17, it is directed to a pipe connector. Applicant submits that no corresponding structure is found in the EPO document.

As to the rejection of claims 14, 17-19, 21 and 23 based upon LaFontaine, Applicant submits that such claims as amended are not anticipated or rendered obvious by Lafontaine.

Specifically, the LaFontaine reference does not teach or suggest the forward and rearward drive force transfer surfaces covered by such claims.

Accordingly, the allowance of all claims remaining in the application and the passage of the application to issue are earnestly solicited.

Respectively submitted,

A handwritten signature in cursive script, reading "Robert R. Meads". The signature is written in dark ink and is positioned above the typed name.

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DRAWING AMENDMENT

See accompanying Replacement Sheet and REMARKS